

Reply under 37 CFR 1.116 – Expedited Procedure - Technology Center 3736

Application No. 09/863,234
Docket No. 0101-P00636US4

Art Unit 3736
Examiner: Lacyk, J.

Amendments to the Claims

Please amend the claims to read as follows.

1-8 (Canceled).

9. (Currently Amended): An appliance for administering a reduced pressure treatment to a wound, comprising:

- (a) a ~~seamless one-piece~~ cover configured to cover and enclose the wound and adapted to maintain reduced pressure at the site of the wound;
- (b) reduced pressure supply means for connection to a source of suction, said reduced pressure supply means cooperating with said cover to supply said at least 0.11 atm of reduced pressure beneath said cover; and
- ~~(c) a screen adapted to permit gas flow to and/or from the wound, said screen being located between said wound and said cover; and~~
- ~~(d)~~ a fluid trap interconnected between said reduced pressure supply means and said cover for collection of wound exudate[[s]].

10. (Currently Amended): The appliance as recited in claim [[9]] 86 wherein said screen comprises a porous sheet.

11. (Previously Presented) The appliance as recited in claim 9 wherein said cover includes an adhesive material adapted to secure said cover to the tissue surrounding the wound.

12. (Currently Amended): The appliance as recited in claim [[9]] 86 wherein said screen comprises a foam screen.

13. (Currently Amended): An appliance for administering a reduced pressure treatment to a wound comprising:

- (a) a cover adapted to cover and enclose the wound and adapted to maintain reduced pressure at the site of the wound;

Reply under 37 CFR 1.116 – Expedited Procedure - Technology Center 3736

Application No. 09/863,234
Docket No. 0101-P00636US4

Art Unit 3736
Examiner: Lacyk, J.

- (b) a ~~seamless continuous, uninterrupted~~ seal adapted to seal said cover to tissue surrounding the wound;
- (c) a source of suction, cooperating with said cover to supply said at least 0.11 atm of reduced pressure ~~beneath said cover~~; and
- (d) ~~a screen having an open cell foam disposed under said cover~~; and
- (e) a fluid trap interconnected between said cover and said reduced pressure supply means, said trap adapted to capture wound exudate[[s]].

14. (Currently Amended): An apparatus for treating a wound comprising:

- (a) a vacuum system adapted to produce a reduced pressure, wherein said vacuum system includes a collection device for collecting fluid aspirated from the wound; and
- (b) a reduced pressure appliance operably connected with said vacuum system adapted to apply said reduced pressure to the wound, the appliance including:
 - a cover adapted to cover and enclose the wound and adapted to maintain reduced pressure at the site of the wound;
 - a seal adapted to seal said cover to tissue surrounding the wound; and
 - reduced pressure supply means for connection with the vacuum system adapted to supply said reduced pressure within said cover to the wound; and
 - ~~a screen positioned within the wound, said screen adapted to permit gas flow to and/or from the wound.~~

15 (Canceled).

16. (Previously Presented) The apparatus of claim 14 wherein said reduced pressure supply means comprises a length of tubing, said collection device comprises an aspirating container connected along said length of tubing between said vacuum system and cover, and

Reply under 37 CFR 1.116 – Expedited Procedure - Technology Center 3736

Application No. 09/863,234
Docket No. 0101-P00636US4

Art Unit 3736
Examiner: Lacyk, J.

said collection device comprises a flotation valve within said aspirating container for blocking said tubing when a predetermined amount of fluid is collected within said container.

17. (Previously Presented) The apparatus of claim 14 wherein said collection device comprises an expandable chamber and a sensing means for sensing expansion of said expandable chamber, said sensing means operatively connected with said vacuum system so that said reduced pressure is halted when a predetermined expansion of said expandable chamber is sensed by said sensing means.

18. (Previously Presented) The apparatus of claim 14 wherein said reduced pressure supply means comprises a length of tubing and a filter along said tubing, said filter having pores that block the supply of reduced pressure via said tubing when said pores are filled with said fluid.

19. (Currently Amended): A method for treating a wound, comprising:

- i. locating a cover over the wound to provide a chamber between the cover and the wound, said cover adapted for maintaining said reduced pressure to at the wound;
- ii. sealing the periphery of said cover to tissue surrounding the wound;
- iii. operably connecting a vacuum system with said chamber at said seal for producing said reduced pressure;
- iv. interposing a fluid trap between said suction port and said vacuum source; and
- v. maintaining reduced pressure to promote the formation of granulation tissue at the wound until the wound has progressed toward a selected stage of healing.

20-22 (Canceled).

23. (Currently Amended): An appliance for administering a reduced pressure treatment to a wound comprising:

Reply under 37 CFR 1.116 – Expedited Procedure - Technology Center 3736

Application No. 09/863,234
Docket No. 0101-P00636US4

Art Unit 3736
Examiner: Lacyk, J.

- (a) a one-piece flexible sheet cover adapted to cover and enclose the wound and adapted to maintain reduced pressure at the site of the wound, ~~wherein said cover is comprised of a seamless flexible sheet;~~
- (b) a seal adapted to seal said cover sheet to tissue surrounding the wound;
- (c) a source of suction cooperating with said sheet and said seal cover to supply reduced pressure beneath said sheet cover; and
- (d) a fluid trap interposed between said cover and said source of suction, said fluid trap including a shut off for halting the application of reduced pressure when a predetermined amount of fluid is collected within said trap.

24. (Currently Amended): An appliance for administering a reduced pressure treatment to a wound comprising:

- (a) a ~~vacuum chamber~~ one-piece cover adapted to cover and enclose the wound and to provide a vacuum chamber about the wound to maintain reduced pressure at the site of the wound, ~~wherein said vacuum chamber is sufficiently rigid to support said cover out of contact with the wound;~~
- (b) a seal adapted to seal said cover to tissue surrounding the wound ~~without contacting the wound;~~
- (c) reduced pressure supply means for connection to a source of suction, said reduced pressure supply means cooperating with said vacuum chamber to supply said reduced pressure of at least 0.11 atm beneath said vacuum chamber, wherein said reduced pressure supply means comprises a suction port on said vacuum chamber; and
- (d) a screen adapted to promote the formation of granulation tissue at the wound ~~permit gas flow to and/or from the wound;~~ for placement at a location within said vacuum chamber and secured in said location by the periphery of said vacuum chamber.

Reply under 37 CFR 1.116 – Expedited Procedure - Technology Center 3736

Application No. 09/863,234
Docket No. 0101-P00636US4

Art Unit 3736
Examiner: Lacyk, J.

25. (Previously Presented) The appliance of claim 24 wherein said screen comprises a flexible, sheet-like mesh.

26. (Previously Presented) The appliance of claim 24 wherein said seal includes an adhesive material on the cover adapted to adhere to tissue surrounding the wound and a seal member at least partially overlying said cover.

27. (Currently Amended): An apparatus for treating a wound comprising:

(a) a vacuum system adapted to produce a reduced pressure, wherein said vacuum system comprises:

- i. a vacuum pump adapted to supply at least 0.11 atm of reduced pressure; and
- ii. a filter for preventing said pump from venting micro-organisms aspirated from the wound; and

(b) a reduced pressure appliance operably connected with said vacuum system adapted to apply said reduced pressure to the wound, the appliance including:

a cover adapted to cover and enclose the wound and adapted to maintain reduced pressure at the site of the wound ~~such that said cover is out of contact with the wound~~;

a seal disposed about the periphery of said cover and adapted to seal said cover to tissue surrounding the wound;

reduced pressure supply means for connection with the vacuum system ~~adapted to supply said reduced pressure to the wound~~, wherein said reduced pressure supply means comprises a length of tubing connected between said vacuum system and said cover; and

a fluid trap interposed between said cover and said reduced pressure supply means.

Reply under 37 CFR 1.116 – Expedited Procedure - Technology Center 3736

Application No. 09/863,234
Docket No. 0101-P00636US4

Art Unit 3736
Examiner: Lacyk, J.

28. (Previously Presented) The apparatus of claim 27 wherein said filter is connected along said tubing between said pump and said fluid trap for preventing contamination of said pump.

29. (Previously Presented) The apparatus of claim 27, wherein said vacuum system comprises control means for cyclically controlling said production of reduced pressure in alternating periods of production and non-production of reduced pressure.

30. (Currently Amended): A method of treating a wound comprising the steps of:

- i. placing a porous screen over the wound providing a vacuum source capable of providing at least 0.11 atm of reduced pressure;
- ii. locating a cover over the wound said cover having a suction port;
- iii. sealing the periphery of said cover to tissue surrounding the wound to form a continuous seal;
- iv. operably connecting said suction port with a said vacuum system for producing said reduced pressure;
- v. interposing a fluid trap between said suction port and said vacuum source;
- and
- vi. maintaining ~~said~~ reduced pressure of at least 0.11 atm at the wound until the wound had progressed toward a selected stage of healing.

31. (Canceled).

32. (Previously Presented) The method of claim 30, wherein said selected stage of healing is a reduction in bacterial density in the wound by at least 50%.

33. (Currently Amended): A device for promoting closure of a wound comprising:

- (a) a deformable cover adapted to be placed over the wound;

Reply under 37 CFR 1.116 – Expedited Procedure - Technology Center 3736

Application No. 09/863,234
Docket No. 0101-P00636US4

Art Unit 3736
Examiner: Lacyk, J.

- (b) an adhesive layer on the cover adapted to form ~~an~~ a liquid impermeable seal between said cover and tissue surrounding the wound; and
- (c) reduced pressure supply means for supplying reduced pressure and adapted to maintain at least 0.11 atm of reduced pressure therein to said enclosed volume and for deforming said cover so as to exert tension upon the tissue surrounding the wound; and
- (d) a fluid trap interposed between said cover and said supply means.

34. (Currently Amended): A method of promoting attachment of a skin graft onto a wound, comprising the steps of:

- (a) attaching the graft to the wound; and
- (b) applying reduced pressure to the graft to promote blood circulation within the graft, wherein said applying step comprises the steps of:
 - i. placing a porous screen over the graft on the wound;
 - ii. locating a cover over the graft on the wound, said cover adapted for maintaining said reduced pressure ~~to~~ at the wound, said cover having a suction port;
 - iii. sealing the periphery of said cover to tissue surrounding the wound;
 - iv. operably connecting said suction port with a vacuum system for producing said reduced pressure; and
 - v. interposing a fluid trap between said suction port and said vacuum source.

35. (Previously Presented) The method of claim 34 wherein the graft is a skin flap, the method comprising the steps of:

- (a) applying reduced pressure to a region of skin adjacent to the wound, and
- (b) forming the flap by detaching skin from said region prior to said attaching step.

36. The method of claim 34 comprising the steps of:

- (a) applying reduced pressure to a region of skin for use as the skin graft; and

Reply under 37 CFR 1.116 – Expedited Procedure - Technology Center 3736

Application No. 09/863,234
Docket No. 0101-P00636US4

Art Unit 3736
Examiner: Lacyk, J.

(b) forming the graft by detaching skin from said region.

37. (Currently Amended): An apparatus for facilitating the healing of wounds, comprising:

a cover adapted to cover and enclose a wound and adapted to maintain reduced pressure at the site of the wound;

a suction pump for creating a reduced pressure of at least 0.11 atm on the area of tissue including and surrounding the wound; and

a liquid impermeable seal member adapted to seal said cover to tissue surrounding the wound ~~cooperating with said suction pump for maintaining said reduced pressure on at said wound by contacting the tissue surrounding said wound;~~
and

~~— a screen for positioning at the wound within the seal member for permitting gas flow to and/or from the wound.~~

38. (Currently Amended) The apparatus according to claim 37 122 in which said screen comprises an open-cell polymer foam.

39. (Currently Amended) The apparatus according to claim 37 122 in which said screen comprises a porous, elastic, semi-rigid member.

40. (Currently Amended): The apparatus according to claim 37, in which said ~~sealing~~ seal includes a flexible sealing rim in contact with said tissue surrounding said wound.

41. (Currently Amended) The apparatus according to claim 37 122, in which said ~~sealing~~ seal includes a flexible polymer sheet overlying said screen means, said polymer sheet having an adhesive on at least a surface facing the wound to attach and seal said polymer sheet to said surrounding tissue.

Reply under 37 CFR 1.116 – Expedited Procedure - Technology Center 3736

Application No. 09/863,234
Docket No. 0101-P00636US4

Art Unit 3736
Examiner: Lacyk, J.

42. (Currently Amended): The apparatus according to claim 37, in which said sealing includes a sealing cuff in contact with said tissue surrounding the wound.

43. (Currently Amended) The apparatus according to claim 37, in which said pump provides at least ~~0.1 atm of suction~~ 0.11 atm of suction.

44. (Currently Amended) The apparatus according to claim 37, in which said pump provides at least ~~3 pounds per square inch suction~~ 0.136 atm of suction.

45. (Currently Amended) The apparatus according to claim 37, in which said pump provides ~~includes pump means for providing~~ at least 14 pounds per square inch suction.

46. (Previously Presented) An apparatus according to claim 37, in which said pump operates cyclically to provide periods of application and non-application of suction.

47. (Previously Presented) An apparatus according to claim 37, in which said pump operates continuously.

48. (Previously Presented) An apparatus according to claim 37, in which said pump supplies a reduced pressure between about 0.5 and 0.99 atmospheres to the wound.

49. (Previously Presented) An apparatus according to claim 37, wherein said pump supplies a reduced pressure between about 0.3 and 0.99 atmospheres to the wound.

50. (Previously Presented) An apparatus according to claim 37, wherein said pump supplies a reduced pressure between about 0.5 and 0.8 atmospheres to the wound.

51. (Canceled).

Reply under 37 CFR 1.116 – Expedited Procedure - Technology Center 3736

Application No. 09/863,234
Docket No. 0101-P00636US4

Art Unit 3736
Examiner: Lacyk, J.

52. (Currently Amended): An apparatus for treating a wound, comprising:
a cover adapted to cover and enclose a wound and adapted to maintain reduced pressure at the site of the wound;
a liquid impermeable seal adapted to seal said cover to tissue surrounding the wound;
~~a foam section configured to overlie the wound;~~
~~a chamber about said foam section, said chamber adapted to form a seal with tissue surrounding the wound for maintaining reduced pressure beneath said chamber; and~~
a tubular member having ~~a first end inserted beneath at least a portion of the foam section and having a second~~ an end extending from beneath the seal edge to a location external to said ~~chamber~~ cover for supplying reduced pressure beneath the cover ~~chamber; and~~
a fluid trap in fluid communication with said tubular member, said fluid trap including a shut off for halting the application of reduced pressure when a predetermined amount of fluid is collected within said trap.
53. (Currently Amended) The apparatus of claim 52 comprising a foam section configured to overly the wound, and wherein said first end of said tubular member is embedded within the foam section.
54. (Previously Presented) The apparatus of claim 52 including a vacuum source that supplies a reduced pressure between about 0.3 and 0.99 atmospheres to the wound.
55. (Previously Presented) The apparatus of claim 52 including a vacuum source that supplies a reduced pressure between about 0.5 and 0.99 atmospheres to the wound.
56. (Previously Presented) The apparatus of claim 52 including a vacuum source that supplies a reduced pressure between about 0.5 and 0.8 atmospheres to the wound.

Reply under 37 CFR 1.116 – Expedited Procedure - Technology Center 3736

Application No. 09/863,234
Docket No. 0101-P00636US4

Art Unit 3736
Examiner: Lacyk, J.

57-83 (Canceled).

84. (New) The appliance according to claim 9, wherein the reduced pressure supply means is adapted to supply at least 0.136 atm of reduced pressure.

85. (New) The appliance according to claim 84, comprising a screen disposed within the cover and adapted to promote the formation of granulation tissue in the wound.

86. (New) The appliance according to claim 9, comprising a screen disposed within the cover and adapted to promote the formation of granulation tissue in the wound.

87. (New) The appliance according to any one of claims 9 and 84-86, wherein the reduced pressure supply means comprises control means for cyclically controlling said production of reduced pressure in alternating periods of production and non-production of reduced pressure.

88. (New) The appliance according to claim 13, wherein the suction source is adapted to supply at least 0.136 atm of reduced pressure.

89. (New) The appliance according to claim 88, comprising a screen disposed within the cover and adapted to promote the formation of granulation tissue in the wound.

90. (New) The appliance according to claim 13, comprising a screen disposed within the cover and adapted to promote the formation of granulation tissue in the wound.

91. (New) The appliance according to any one of claims 13 and 88-90, wherein the suction source comprises control means for cyclically controlling said production of reduced pressure in alternating periods of production and non-production of reduced pressure.

Reply under 37 CFR 1.116 – Expedited Procedure - Technology Center 3736

Application No. 09/863,234
Docket No. 0101-P00636US4

Art Unit 3736
Examiner: Lacyk, J.

92. (New) The apparatus according to claim 14, wherein the reduced pressure supply means is adapted to maintain at least 0.136 atm of reduced pressure.

93. (New) The apparatus according to claim 92, comprising a screen disposed within the cover and adapted to promote the formation of granulation tissue in the wound.

94. (New) The apparatus according to claim 14, comprising a screen disposed within the cover and adapted to promote the formation of granulation tissue in the wound.

95. (New) The apparatus according to any one of claims 14 and 92-94, wherein the reduced pressure supply means comprises control means for cyclically controlling said production of reduced pressure in alternating periods of production and non-production of reduced pressure.

96. (New) The method according to claim 19, comprising maintaining reduced pressure of at least 0.136 atm at the wound to promote the formation of granulation tissue until the wound has progressed toward a selected stage of healing.

97. (New) The method according to claim 96, comprising locating a screen within the cover, the screen adapted to promote the formation of granulation tissue in the wound.

98. (New) The method according to claim 19, comprising locating a screen within the cover, the screen adapted to promote the formation of granulation tissue in the wound.

99. (New) The method according to any one of claims 19 and 96-98, wherein the reduced pressure is applied in alternating intervals of application and non-application.

100. (New) The appliance according to claim 23, wherein the suction source is adapted to supply at least 0.136 atm of reduced pressure.

Reply under 37 CFR 1.116 – Expedited Procedure - Technology Center 3736

Application No. 09/863,234
Docket No. 0101-P00636US4

Art Unit 3736
Examiner: Lacyk, J.

101. (New) The appliance according to claim 100, comprising a screen disposed under the sheet and adapted to promote the formation of granulation tissue in the wound.

102. (New) The appliance according to claim 23, comprising a screen disposed under the sheet and adapted to promote the formation of granulation tissue in the wound.

103. (New) The appliance according to any one of claims 23 and 100-102, wherein the suction source comprises control means for cyclically controlling said production of reduced pressure in alternating periods of production and non-production of reduced pressure.

104. (New) The appliance according to claim 24, wherein the reduced pressure supply means is adapted to supply at least 0.136 atm of reduced pressure.

105. (New) The appliance according to claim 104, wherein the seal comprises a liquid impervious seal.

106. (New) The appliance according to claim 24, wherein the seal comprises a liquid impervious seal.

107. (New) The appliance according to any one of claims 24 and 104-106, wherein the reduced pressure supply means comprises control means for cyclically controlling said production of reduced pressure in alternating periods of production and non-production of reduced pressure.

108. (New) The apparatus according to claim 27, wherein the pump is adapted to supply at least 0.136 atm of reduced pressure.

109. (New) The apparatus according to claim 108, comprising a screen disposed within the cover and adapted to promote the formation of granulation tissue in the wound.

Reply under 37 CFR 1.116 – Expedited Procedure - Technology Center 3736

Application No. 09/863,234
Docket No. 0101-P00636US4

Art Unit 3736
Examiner: Lacyk, J.

110. (New) The apparatus according to claim 27, comprising a screen disposed within the cover and adapted to promote the formation of granulation tissue in the wound.

111. (New) The apparatus according to any one of claims 27 and 108-110, wherein the pump comprises control means for cyclically controlling said production of reduced pressure in alternating periods of production and non-production of reduced pressure.

112. (New) The method according to claim 30, comprising providing a vacuum source capable of providing at least 0.136 atm of reduced pressure.

113. (New) The method according to claim 112, comprising locating a screen within the cover, the screen adapted to promote the formation of granulation tissue in the wound.

114. (New) The method according to claim 30, comprising locating a screen within the cover, the screen adapted to promote the formation of granulation tissue in the wound.

115. (New) The appliance according to any one of claims 30 and 112-114, wherein said reduced pressure is applied in alternating periods of application and non-application.

116. (New) The device according to claim 33, wherein the reduced pressure supply means is adapted to supply at least 0.136 atm of reduced pressure.

117. (New) The device according to claim 116, comprising a screen disposed within the cover and adapted to promote the formation of granulation tissue in the wound.

118. (New) The device according to claim 33, comprising a screen disposed within the cover and adapted to promote the formation of granulation tissue in the wound.

Reply under 37 CFR 1.116 – Expedited Procedure - Technology Center 3736

Application No. 09/863,234
Docket No. 0101-P00636US4

Art Unit 3736
Examiner: Lacyk, J.

119. (New) The device according to any one of claims 33 and 116-118, wherein the reduced pressure supply means comprises control means for cyclically controlling said production of reduced pressure in alternating periods of production and non-production of reduced pressure.

120. (New) The apparatus according to claim 37, wherein the suction pump is adapted to maintain at least 0.136 atm of reduced pressure.

121. (New) The apparatus according to claim 120, comprising a screen disposed within the cover and adapted to promote the formation of granulation tissue in the wound.

122. (New) The apparatus according to claim 37, comprising a screen disposed within the cover and adapted to promote the formation of granulation tissue in the wound.

123. (New) The apparatus according to any one of claims 37 and 120-122, wherein the pump comprises control means for cyclically controlling said production of reduced pressure in alternating periods of production and non-production of reduced pressure.

124. (New) The apparatus according to claim 52, comprising a source of suction cooperating with said cover and seal to supply reduced pressure of at least 0.11 atm beneath said cover.

125. (New) The apparatus according to claim 124, comprising a screen disposed within the cover and adapted to promote the formation of granulation tissue in the wound.

126. (New) The apparatus according to claim 52, comprising a screen disposed within the cover and adapted to promote the formation of granulation tissue in the wound.

127. (New) The apparatus according to any one of claims 52 and 124-126, comprising a reduced pressure supply means cooperating with the cover, the supply means comprising a

Reply under 37 CFR 1.116 – Expedited Procedure - Technology Center 3736

Application No. 09/863,234
Docket No. 0101-P00636US4

Art Unit 3736
Examiner: Lacyk, J.

control means for cyclically controlling said production of reduced pressure in alternating periods of production and non-production of reduced pressure.

128. (New) The apparatus according to claim 14, wherein the reduced pressure supply means is adapted to maintain at least 0.11 atm of reduced pressure.

129. (New) The appliance according to claim 23, wherein the suction source is adapted to supply at least 0.11 atm of reduced pressure.

130. (New) The apparatus according to claim 27, wherein the pump is adapted to supply at least 0.11 atm of reduced pressure.

131. (New) The device according to claim 33, wherein the reduced pressure supply means is adapted to supply at least 0.11 atm of reduced pressure.

132. (New) The apparatus according to claim 52, comprising a source of suction cooperating with said cover and seal to supply reduced pressure of at least 0.136 atm beneath said cover.